

WHAT IS CLAIMED IS:

1. An information transmitting device for multiplexing and transmitting data including predetermined contents, comprising:

5 means for converting a time base of data including contents to be transmitted;

means for generating time information based on the converted time base and causing the data to include the time information; and

10 means for transmitting the data on the contents which include the time information.

2. The information transmitting device according to claim 1, wherein the time information includes dummy reference time information indicative of a reference time during output and time ratio information indicative of a time ratio of a real time to a transfer time.

3. An information terminal device for receiving data including predetermined contents delivered from a transmitting side, comprising:

20 means for detecting time information from the received data;

means for converting the detected time information into output time information indicative of a timing for outputting the predetermined contents;

25 means for recording at least the predetermined contents and the output time information; and

means for controlling an output of the contents

read from the recording means based on the output time information.

4. The information terminal device according to claim 3, wherein the time information includes dummy reference time information indicative of a reference time during output and time ratio information indicative of a time ratio of a real time to a transfer time, and

the converting means calculates output time information from the dummy reference time information and the time ratio information.

5. The information terminal device according to claim 3, wherein the converting means latches an arrival time of a dummy packet including the dummy reference time information and the time ratio information and multiplies a difference between the arrival time of the latched dummy packet and an arrival time of an input packet by the time ratio information, thereby calculating output time information of the packet.

6. The information terminal device according to claim 3, wherein the converting means latches an arrival time of a dummy packet including the dummy reference time information and the time ratio information and multiplies a difference between the arrival time of the latched dummy packet and an arrival time of an input packet by the time ratio information, thereby calculating output time information of the packet, and.

acquires continuous dummy packets and calibrates

the output time information of the packet based on a difference in the dummy reference time information included in the continuous dummy packets.

7. A digital broadcast receiving device for receiving a broadcast signal, comprising:

means for extracting digital data including predetermined contents from the received broadcast signal;

means for detecting time information from the extracted digital data;

means for converting the detected time information into output time information indicative of a timing for outputting the predetermined contents;

means for recording at least the predetermined contents and the output time information; and

means for controlling an output of the contents read from the recording means based on the output time information.

8. The digital broadcast receiving device according to claim 7, wherein the time information includes dummy reference time information indicative of a reference time during output and time ratio information indicative of a time ratio of a real time to a transfer time, and

the converting means calculates output time information from the dummy reference time information and the time ratio information.

9. The digital broadcast receiving device according to claim 7, wherein the converting means latches

an arrival time of a dummy packet including the dummy reference time information and the time ratio information and multiplies a difference between the arrival time of the latched dummy packet and an arrival time of an input packet by the time ratio information, thereby calculating output time information of the packet.

10. The digital broadcast receiving device according to claim 7, wherein the converting means latches an arrival time of a dummy packet including the dummy reference time information and the time ratio information and multiplies a difference between the arrival time of the latched dummy packet and an arrival time of an input packet by the time ratio information, thereby calculating output time information of the packet, and

15 acquires continuous dummy packets and calibrates the output time information of the packet based on a difference in the dummy reference time information included in the continuous dummy packets.

11. An information transmitting method for multiplexing and transmitting data including predetermined contents, comprising the steps of:

20 converting a time base of data including contents to be transmitted;

25 generating time information based on the converted time base and causing the data to include the time information; and

transmitting the data on the contents which

include the time information.

12. The information transmitting method

according to claim 11, wherein the time information includes dummy reference time information indicative of a reference time during output and time ratio information indicative of a time ratio of a real time to a transfer time.

13. An information terminal receiving method for receiving data including predetermined contents delivered from a transmitting side, comprising the steps of:

10                   detecting time information from the received data;

                      converting the detected time information into output time information indicative of a timing for outputting the predetermined contents;

15                   recording at least the predetermined contents and the output time information; and

                      controlling an output of the contents based on the output time information.

14. The information terminal receiving method according to claim 13, wherein the time information includes dummy reference time information indicative of a reference time during output and time ratio information indicative of a time ratio of a real time to a transfer time, and

20                   the converting means calculates output time information from the dummy reference time information and the time ratio information.

25                   15. The information terminal receiving method

according to claim 13, wherein the conversion latches an arrival time of a dummy packet including the dummy reference time information and the time ratio information and multiplies a difference between the arrival time of the latched dummy packet and an arrival time of an input packet by the time ratio information, thereby calculating output time information of the packet.

16. The information terminal receiving method according to claim 13, wherein the conversion latches an arrival time of a dummy packet including the dummy reference time information and the time ratio information and multiplies a difference between the arrival time of the latched dummy packet and an arrival time of an input packet by the time ratio information, thereby calculating output time information of the packet, and

acquires continuous dummy packets and calibrates the output time information of the packet based on a difference in the dummy reference time information included in the continuous dummy packets.

17. A digital broadcast receiving method for receiving a broadcast signal, comprising the steps of:

extracting digital data including predetermined contents from the received broadcast signal;

detecting time information from the extracted digital data;

converting the detected time information into output time information indicative of a timing for outputting

the predetermined contents;  
recording at least the predetermined contents and the output  
time information; and

5 controlling read of the predetermined contents  
based on the output time information.

18. The digital broadcast receiving method according to claim 17, wherein the time information includes dummy reference time information indicative of a reference time during output and time ratio information indicative of a time ratio of a real time to a transfer time, and the conversion calculates output time information from the dummy reference time information and the time ratio information.

19. The digital broadcast receiving method  
15 according to claim 17, wherein the conversion latches an  
arrival time of a dummy packet including the dummy reference  
time information and the time ratio information and  
multiplies a difference between the arrival time of the  
packet including the latched dummy reference time  
information and the time ratio information and an arrival  
20 time of an input packet by the time ratio information, thereby  
calculating output time information of the packet.

20. The digital broadcast receiving method  
according to claim 17, wherein the conversion latches an  
arrival time of a dummy packet including the dummy reference  
time information and the time ratio information and  
multiplies a difference between the arrival time of the

latched dummy packet and an arrival time of an input packet by the time ratio information, thereby calculating output time information of the packet, and

5                   acquires continuous dummy packets and calibrates the output time information of the packet based on a difference in the dummy reference time information included in the continuous dummy packets.

10                 21. An output time calculating device for receiving data including predetermined contents delivered from a transmitting side, detecting time information from the received data and calculating output time information from the detected time information, comprising:

15                 means for latching an arrival time of a dummy packet including dummy reference time information and time ratio information; and

20                 means for multiplying a difference between the arrival time of the latched dummy packet and an arrival time of an input packet by the time ratio information, thereby calculating output time information of the packet.

25                 22. An output time calculating device for receiving data including predetermined contents delivered from a transmitting side, detecting time information from the received data and calculating output time information from the detected time information, comprising:

                   means for latching an arrival time of a packet including dummy reference time information and time ratio information; and

means for multiplying a difference between the arrival time of the latched dummy packet and an arrival time of an input packet by the time ratio information, thereby calculating output time information of the packet, and

5 acquiring continuous dummy packets and  
calibrating the output time information of the packet based  
on a difference in the dummy reference time information  
included in the continuous dummy packets.

23. An output time calculating method for receiving data including predetermined contents delivered from a transmitting side, detecting time information from the received data and calculating output time information from the detected time information, comprising the steps of:

latching an arrival time of a dummy packet including dummy reference information and time ratio information; and

multiplied by a difference between the arrival time of the latched dummy packet and an arrival time of an input packet by the time ratio information, thereby calculating output time information of the packet.

24. An output time calculating method for receiving data including predetermined contents delivered from a transmitting side, detecting time information from the received data and calculating output time information from the detected time information, comprising the steps of:

latching an arrival time of a dummy packet

including dummy reference information and time ratio information; and

5 multiplying a difference between the arrival time of the latched dummy packet and an arrival time of an input packet by the time ratio information, thereby calculating output time information of the packet, and

10 acquiring continuous dummy packets and calibrating the output time information of the packet based on a difference in the dummy reference information included in the continuous dummy packets.